Abstract

A lead acid battery cell including a positive plate or grid formed from a Pb/Ca/Sn/Ag alloy or a Pb/Ca/Sn/Ag/Al alloy is disclosed. An interaction between tin and silver in the lead alloy has been discovered which leads to the selection of optimum tin and silver levels which are substantially different than those indicated in the prior art. The described optimum tin and silver levels result in a positive grid alloy with superior mechanical properties and improved corrosion resistance which leads to superior battery life in present day SLI lead-acid battery applications. In one form, the alloy includes lead, tin in an amount greater than about 0.5%, calcium in an amount such that the ratio of tin to calcium is greater than about 12:1, and silver in the range of greater than 0 to about 0.020%, the percentages being based upon the total weight of the alloy.